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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/500,308 | 03/11/2005 | Ingemar Backlund | 2380-1292 | 9844 |

23117 7590 10/02/2009

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| EXAMINER | |
|---|---|
| FEARER, MARK D | |
| ART UNIT | PAPER NUMBER |
| 2443 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 10/02/2009 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/500,308 | BACKLUND, INGEMAR | |
| | Examiner | Art Unit | |
| | MARK D. FEARER | 2443 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5,7,8,10-13 and 22-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 7-8, 10-13 and 22-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. Applicant's Amendment filed 22 December 2008 is acknowledged.
2. Claims 1, 3-5 and 7-8 have been amended.
3. Claims 6, 9 and 14-21 are cancelled.
4. Claims 22-30 are new.
5. Claims 1-5, 7-8, 10-13 and 22-30 are pending in the present application.
6. This action is made FINAL.

### *Claim Rejections - 35 USC § 103*

**7.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**8.** Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puuskari (US 6728208 B1) in view of Mora (US 20030018793 A1).

Consider claims 1, 5 as applied to claim 1, 22, and 27 as applied to claim 22. Puuskari discloses a method in a data communication system wherein data is

transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol (("If both reliable and unreliable paths are employed between the MS and the SGSN, it is required that the LLC layer multiplexes several NSAPI of one user onto several SAPIs in the MS and SGSN. Logical Link Entities (LLE) may establish all connections, i.e. the SAPIs, beforehand or only on demand. These SAPIs/links should not be teared down immediately after serving one request. A timer, for example, may control the tearing down of LLC connections associated with SAPIs. The SNDC layer decides, based on the TLLI and the delay class or optionally also the reliability class, which SAPI it will use to transfer the packet in question. The SNDC layer can perform segmentation of SN-PDUs as usual. Then, the SNDC layer gives the packet to the LLC layer using the appropriate SAP. The LLC layer transmits the packet over the LLC/radio connection as usual. At the other end, the SNDC layer receives packets from the different LLEs and associates them with the correct NSAPIs. Ordering of packets is not essential because packets using different QoS either belong to different application-level connections or are reordered based on their QoS values, which is the purpose of QoS values in the first place.") column 14 lines 33-53); receiving, in said higher layer transmitting protocol

entity, said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier ((“For Mobile Terminated (MT) data packets, the same procedure applies, only the transmission direction is reversed. In this case, it is the GGSN who selects the appropriate GTP path, the SGSN looks inside the downlink GTP header in order to find the traffic type and QoS information. The SGSN also adds the QoS information to downlink SNDCP packets, makes the scheduling based on packet delay classes, and decides the correct LLC SAPI to be used. The Mobile Terminal may change the application's IP header in order to inform the Terminal Equipment (TE) of the QoS of the downlink data packet. Alternatively, the MS might use some GPRS or PPP specific mechanisms for delivering the same information to the TE. Scheduling and policing operations inside the network elements are basically the same in both directions.”) column 15 lines 26-40).

However, Puuskari does not explicitly teach a system and method of transmitting, from a higher layer transmitting protocol entity, a protocol data unit to a lower layer transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said protocol data unit by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the protocol data unit to the lower layer transmitting protocol entity until after it has received the transmission result.

Mora discloses a system and method of a reliable transport layer protocol in low performance 8-bit microcontrollers comprising a method of transmitting, from a higher layer transmitting protocol entity, a protocol data unit (packet) to a lower laver transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said protocol data unit by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the protocol data unit to the lower layer transmitting protocol entity until after it has received the transmission result.

[Mora, paragraph 0107] If the application layer asks for an acknowledge service (520), the packet type takes the corresponding value of 0.times.01, the retry timer is set and the packet ID takes the value in the ID_Counter (522). ID_Counter is an increasing counter which stores the actual value to be assigned to the packet ID. By sending sequential packet ID numbers, the destination system, if needed, can notice about the loss of a message. When it reaches the maximum value 255 it goes back to 1. Finally, the packet is sent to the next layer, the UDP layer (518).

Puuskari discloses a prior art Puuskari discloses a method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol; receiving, in said higher layer transmitting protocol entity,

said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier upon which the claimed invention can be seen as an improvement.

Mora teaches a prior art comparable system and method of a reliable transport layer protocol in low performance 8-bit microcontrollers comprising a method of transmitting, from a higher layer transmitting protocol entity, a packet to a lower laver transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said packet by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the packet to the lower layer transmitting protocol entity until after it has received the transmission result.

Thus, the manner of enhancing a particular device (system and method of a reliable transport layer protocol in low performance 8-bit microcontrollers comprising a method of transmitting, from a higher layer transmitting protocol entity, a protocol data unit (packet) to a lower laver transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said protocol data unit by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the protocol data unit to the lower layer transmitting protocol entity until after it has received the

transmission result) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Mora. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol; receiving, in said higher layer transmitting protocol entity, said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier of Puuskari and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a system and method of a reliable transport layer protocol.

Consider claim 2, as applied to claim 1. Puuskari, as modified by Mora, discloses a method wherein encapsulation of data is carried out by means of protocols located in

different nodes ((“GPRS transparently transports PDP PDUs between external networks and MSs. Between the SGSN and the GGSN, PDP PDUs are routed and transferred with the IP protocol. The GPRS Tunnelling Protocol transfers data through tunnels. A tunnel is identified by a tunnel identifier (TID) and a GSN address. All PDP PDUs are encapsulated and decapsulated for GPRS routing purposes. Encapsulation functionality exists at the MS, at the SGSN, and at the GGSN. Encapsulation allows PDP PDUs to be delivered to and associated with the correct PDP context in the MS, the SGSN, or the GGSN. Two different encapsulation schemes are used; one for the GPRS backbone network between two GSNs, and one for the GPRS connection between SGSN and MS.”) Puuskari, column 9 lines 52-65).

Consider claims 3 as applied to claim 1, and 23 as applied to claim 22. Puuskari, as modified by Mora, discloses a method wherein said protocol data unit (packet) is identified by an identifier (Mora, paragraph 0107) local to the communication between the higher layer transmitting protocol entity and the lower layer transmitting protocol entity ((“Between SGSN and MS, a SGSN or MS PDP context is uniquely addressed with a TLLI and a NSAPI pair. TLLI is assigned when the MS initiates the Attach function. NSAPIs are assigned when the MS initiates the PDP Context Activation function. ”) Puuskari, column 10 lines 6-10).

Consider claims 4 as applied to claim 3, 24 as applied to claim 22, and 29 as applied to claim 28. Puuskari, as modified by Mora, discloses a method wherein said identifier is assigned to said protocol data unit by said higher transmitting protocol entity (Puuskari, column 10 lines 6-10).

Consider claim 7, as applied to claim 1. Puuskari, as modified by Mora, discloses a method wherein said transmission result is transmitted to said higher layer transmitting protocol entity in a message which is transparently relayed by some or all of any intermediate protocol entities that are logically positioned (Mora, paragraph 0006) between the higher layer transmitting protocol entity and the lower layer transmitting protocol entity ((“The serving GPRS support node SGSN is a node which serves the mobile station MS. Each support node SGSN controls a packet data service within the area of one or more cells in a cellular packet radio network, and therefore, each support node SGSN is connected (Gb interface) to a certain local element of the GSM system. This connection is typically established to the base station system BSS, i.e. to base station controllers BSC or to a base station BTS. The mobile station MS located in a cell communicates with a base station BTS over a radio interface and further with the support node SGSN to the service area of which the cell belongs through the mobile communication network. In principle, the mobile communication network between the support node SGSN and the mobile station MS only relays packets between these two. To realize this, the mobile communication network provides packet-switched transmission of data packets between the mobile station MS and the serving support

node SGSN. It has to be noted that the mobile communication network only provides a physical connection between the mobile station MS and the support node SGSN, and thus its exact function and structure is not significant with respect to the invention. The SGSN is also provided with a signaling interface Gs to the visitor location register VLR of the mobile communication network and/or to the mobile services switching centre, e.g. signaling connection SS7. The SGSN may transmit location information to the MSC/VLR and/or receive requests for searching for a GPRS subscriber from the MSC/VLR.") Puuskari, column 6lines 57-67 and column 7 lines 1-16).

Consider claims 8 as applied to claim 1, and 28 as applied to claim 27. Puuskari, as modified by Mora, discloses a method wherein said protocol data unit is identified by an identifier assigned by the lower layer (Mora, paragraphs 0089-0090) transmitting protocol entity (("The Network layer Service Access Point Identifier (NSAPI) and Temporary Logical Link Identity (TLLI) are used for network layer routing. A NSAPI/TLLI pair is unambiguous within a routing area. In the MS, NSAPI identifies the PDP service access point (PDP-SAP). In the SGSN and GGSN, NSAPI identifies the PDP context associated with a PDP address. Between the MS and SGSN, TLLI unambiguously identifies the logical link. NSAPI is a part of the tunnel identifier (TID). TID is used by the GPRS Tunnelling protocol between GSNs to identify a PDP context. A TID consists of an IMSI and a NSAPI. The combination of IMSI and NSAPI uniquely identifies a single PDP context. The TID is forwarded to the GGSN upon PDP Context Activation and it is used in subsequent tunneling of user data between the GGSN and the SGSN to identify

the MS's PDP contexts in the SGSN and GGSN. The TID is also used to forward N-PDUs from the old SGSN to the new SGSN at and after an inter SGSN routing update.") Puuskari, column 9 lines 29-46).

Consider claim 10, as applied to claim 1. Puuskari, as modified by Mora, discloses a method wherein said higher layer transmitting protocol entity and said lower layer transmitting protocol entities are located within different nodes (("In order to send and receive GPRS data, the MS shall activate the packet data address that it wants to use, by requesting a PDP activation procedure. This operation makes the MS known in the corresponding GGSN, and interworking with external data networks can commence. More, particularly a PDP context is created in the MS and the GGSN and the SGSN.") Puuskari, column 7 lines 59-65).

Consider claims 11, and 12 as applied to claim 11. Puuskari, as modified by Mora, discloses a method wherein a radio interface is a radio interface in a mobile radio communication system (("Logical Link Control (LLC) provides a highly reliable ciphered logical link. LLC shall be independent of the underlying radio interface protocols in order to allow introduction of alternative GPRS radio solutions with minimum changes to the NSS. LLC is specified in GSM 04.64.") Puuskari, column 8 lines 66-67 and column 9 lines 1-3).

Consider claims 13 as applied to claim 12, and 25-26 as applied to claim 22. Puuskari, as modified by Mora, discloses a method wherein a mobile radio communication system is a mobile radio communication system operating according to the General Packet Radio System standard; and the higher layer transmitting protocol entity is a Logical Link Control protocol and the lower layer transmitting protocol entity is a Radio Link Control/Media Access Control protocol ((“Current GPRS QoS profile contains five parameters: service precedence, delay class, reliability, and mean and peak bit rates. Service precedence defines some kind of priority for the packets belonging to a certain PDP context. Delay class defines mean and maximum delays for the transfer of each data packet belonging to that context. Reliability in turn specifies whether acknowledged or unacknowledged services will be used at LLC and RLC (Radio Link Control) layers. In addition, it specifies whether protected mode should be used in case of unacknowledged service, and whether the GPRS backbone should use TCP or UDP to transfer data packets belonging to the PDP context. Furthermore, these varying QoS parameters are mapped to four QoS levels available at LLC layer.”) Puuskari, column 2 lines 22-35).

Consider claim 30, as applied to claim 28. Puuskari, as modified by Mora, discloses a method wherein an identifier is assigned to the protocol data unit by said lower layer transmitting protocol entity (Puuskari, column 9 lines 29-46).

### *Response to Arguments*

**9.** Applicant's arguments filed 22 December 2008 with respect to claims 1-5, 7-8 and 10-13 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

**10.** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark Fearer whose telephone number is (571) 270-1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Mark Fearer
/M.D.F./
September 29, 2009

/George C Neurauter, Jr./

Primary Examiner, Art Unit 2443